REMARKS

Claims 31 – 39 and 50 - 59 remain in the present application.

102 Rejections

Claims 31 and 55 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,522,656 to Gridley. Applicants respectfully assert that the present invention as claimed in Claims 31 and 55 is neither shown nor suggested by the Gridley reference.

With respect to Claims 31 and 55 the present Office Action alleges the Gridley reference teaches performing unscheduled cut through routing of a communication probe wherein the probe is discarded if the unscheduled cut through routing is not performed directly. To the extent the Gridley reference may mention cut through switching[Col. 5 line 17 to Col. 6 line 14] and if a packet turns out to be _invalid_ the packet is discarded, Applicants respectfully asserts the Gridley reference does not teach performing unscheduled cut through routing of <u>a communication path probe</u>, wherein the probe is <u>discarded</u> if said unscheduled cut through routing is not performed <u>directly</u>. Applicants respectfully assert that discarding a packet based on <u>validity of a checksum</u> in a header does not teach discarding if the unscheduled cut through routing is not performed <u>directly.</u> Furthermore, to the extent the Gridley reference may mention converting a port <u>to store</u> and forward switching if a condition is not met [Col 5 lines 41 to 43] and <u>waiting</u> before it is forwarded [Col 5 lines 55], Applicants respectfully assert the Gridley reference <u>teaches away</u> from <u>unscheduled</u> cut through

routing and discarding if the unscheduled cut through routing is not performed directly. In addition, Applicants respectfully assert the Gridley reference teaches away from the present invention by indicating broadcast packets are always placed in a store and forward mode [Col. 6 lines 13 to 14].

Applicants respectfully assert that Claims 32 – 39 and 56 to 59 are allowable as depending from allowable independent Claims 31 and 55 respectively.

103 Rejections

Claims 32 and 37 are rejected under 35 U.S.C. 103 as being unpatentable over Gridley in view of U.S. Patent No. 6,611,519 to Howe. Applicants respectfully assert that the present invention as claimed in Claims 32 and 37 is neither shown nor suggested by the Gridley reference and Howe reference, alone or together in combination.

The present Office Action alleges the Gridley reference teaches a system as discussed above. Applicants respectfully reassert the Gridley reference does not teach a system of the present invention as discussed above. The present Office Action acknowledges the Gridley reference does not teach determining if incoming information has time sensitive information.

With respect to Claim 32, the present Office Action re-alleges Howe teaches a processor analyzes incoming information and determines if the incoming information has time sensitive characteristics. To the extent the Howe reference may mention a

means to enable a layer one bypass connection for the transfer of incoming data and enable real-time or high-priority packets to bypass standard buffering means, Applicants respectfully assert Howe does not teach analyzing incoming information and determining if the incoming information has time sensitive characteristics. Furthermore, to the extent the Howe reference may mention cut through routing, Applicants respectfully assert the Howe reference teaches away from unscheduled cut through routing by indicating a reservation schedule is set up and scheduled packets are transmitted at a specific predetermined time [Col. 4 lines 27 – 45]. Applicants respectfully assert the Howe reference also teaches away from pre-emptive cut through routing by indicating a reservation schedule is set up and scheduled packets are transmitted at a specific predetermined time [Col. 4 lines 27 – 45].

In addition, to the extent the Howe reference may mention when a scheduled layer one event is over a device switches back to standard store and forward switching [Col. 4 lines 46-52], Applicants respectfully assert the Howe reference teaches away from performing unscheduled cut through routing of a communication path probe utilized to establish a communication path for communicating non-time sensitive information. To the extent the Howe reference may mention delaying, stopping or starting standard non-real time, non-high priority store and forward packets in the input and output buffers for the purposes of scheduling and switching layer one real-time or high priority packets [Col. 23, lines 21 – 31], Applicants respectfully assert the Howe reference does not teach cut through communication of time sensitive pre-empts information communication of other non-time sensitive information and the pre-emptive information is dropped. Applicants respectfully assert the Howe reference teaches away by indicating the information is buffered.

Claims 33 – 36, 38, 39, and 56 – 59 are rejected in the above referenced Office Action, under 35 U.S.C. 103 (a) as being unpatentable over Gridley in view of Howe and US Patent No. 6,173,331 to Shimonishi. Applicants respectfully assert that the present claimed invention is neither shown nor suggested by the Gridley, Howe and/or Shimonishi references, alone or together in combination.

Applicants respectfully point out to the Examiner that current amendments to Claim 50 essentially incorporate the elements and limitations of previously presented independent Claim 48 from which Claim 50 originally depended.

With respect to Claim 33, the present Office Action alleges the Gridley in view of Howe reference teaches the system discussed above regarding Claim 32. Applicants respectfully assert the Gridley and/or Howe reference does not teach the invention as claimed in Claim 32, in accordance with the rationale discussed above. The present Office Action acknowledges the Gridley in view of Howe reference does not teach a processor directs the system to drop the incoming information with time sensitive characteristics if the switching circuit cannot output the information within specified timing constraints. In addition, Applicants respectfully assert the Gridley and/or Howe reference does not teach unscheduled cut through routing as claimed in the present application.

Applicants respectfully re-assert the Shimonishi reference does not overcome these and other shortcomings of the Gridley and Howe reference. The present Office Action alleges the Shimonishi reference teaches a processor directs the system to drop

the incoming information. To the extent the Shimonishi reference may mention discarding a received packet associated with minimizing the vacancy of the transmission medium [Col. 2 lines 1 - 15 –38], Applicants respectfully assert that the Shimonishi reference does not teach droping the incoming information with time sensitive characteristics if the switching circuit can not output the information within specified timing constraints according to the time sensitive characteristics. Applicants respectfully assert the present claimed invention focuses on the time sensitive characteristics of the information rather than the minimization of vacancy on the transmission medium. In addition applicants respectfully assert that Shimonishi reference does not teach unscheduled pre-emptive cut through routing in which current communication of information is dropped and unscheduled information is cut through.

With respect to Claim 34 the present Office Action alleges the Howe reference teaches determining if the switching circuit is busy performing other switching operations within specified timing constraints and . To the extent the Howe reference may mention a request and event schedule [Fig. 3], Applicants respectfully assert the Howe reference does not teach a processor directs said time sensitive quality of service management system to drop said incoming information with time sensitive characteristics if said switching circuit is busy performing other switching operations.

With respect to Claims 35 and 36 the present Office Action alleges the Howe reference teaches directing a switch to forward time sensitive information upon receipt and analysis of the destination information. To the extent the Howe reference may mention inverting amplifiers [Col. 34 line 1 – line 67] and/or inserting source and destination addresses in a header, Applicants respectfully assert Howe does not teach

directing a switch to forward time sensitive information upon receipt and <u>analysis</u> of the destination information.

With respect to Claim 38 the present Office Action alleges Howe teaches the information and system is compatible with TCP/IP standards. Applicants respectfully assert the Howe reference does not teach a time sensitive quality of service management system and method with cut through routing as claimed in the present application is compatible with TCP/IP standards. In addition, Applicants respectfully assert the Howe reference does not teach a communication path probe is <u>broadcast</u> to communicatively coupled neighboring intermediate network devices as claimed in newly amended Claim 38.

With respect to Claim 39 the present Office Action acknowledges the Howe reference does not teach that urgent information corresponds to a specific port. The present Office Action alleges Howe teaches data associated with urgent information applications which implicitly correspond to a particular timing device. To the extent the Howe reference may mention data associated with urgent information applicants, Applicants respectfully assert the Howe reference does not implicitly teach a particular timing device.

With respect to Claim 56, the present Office Action acknowledges that Gridley in view of Howe does not teach analyzing and dropping information base upon timing constraint timing constraints. Applicants respectfully assert the Shimonishi reference does not teach timing constraints as discussed above.

With respect to Claim 57, the present Office Action alleges that Howe teaches dropped information is resent from an originating device. To the extent the Howe reference may mention time sensitive and non time sensitive information, Applicants respectfully assert the Howe reference does not teach dropped information is resent from an originating device.

With respect to Claim 58, the present Office Action alleges that Howe teaches a packet of information is switched to the down stream channels as soon the header indicating the timing constraints of the information is received and analyzed. To the extent the Howe reference may mention time sensitive and non time sensitive information, Applicants respectfully assert the Howe reference does not teach a packet of information is switched to the down stream channels as soon the header indicating the timing constraints of the information is received and analyzed.

With respect to Claim 59 , the present Office Action alleges that Howe teaches information is considered urgent if it is addressed to a port associated with a real time device. To the extent the Howe reference may mention time sensitive and non time sensitive information, Applicants respectfully assert the Howe reference does not teach information is considered urgent if it is addressed to a port associated with a real time sensitive device.

Claims 50-54 are rejected in the above referenced Office Action, under 35 U.S.C. 103 (a) as being unpatentable over Howe in view of Gridley and US Patent No. 6,173,331 to Shimonishi. Applicants respectfully assert that the present claimed

invention is neither shown nor suggested by the Gridley, Howe and/or Shimonishi references, alone or together in combination.

With respect to Claim 50 the present Office Action alleges Howe teaches determining transmission timing constraints of the intermediate network device. To the extent the Howe reference may mention a means to enable a layer one bypass connection for the transfer of incoming data and enable real-time or high-priority packets to bypass standard buffering means [Col22 lines 52-60], Applicants respectfully assert Howe does not teach determining timing constraints of the intermediate network device. The present Office Action acknowledges (later on page 14 third paragraph) that the Howe reference does not teach determining timing constraints of intermediate network devices. In addition the present Office Action acknowledges the Howe reference does not teach unscheduled pre-emptive cut through routing and does not teach analyzing and dropping information based upon timing constraints.

The present Office Action alleges the Gridley reference teaches unscheduled cut through routing. Applicants respectfully assert the Gridley reference does not overcome these and other shortcomings of the Howe reference. As discussed above, to the extent the Gridley reference may mention cut through switching[Col. 5 line 17 to Col. 6 line 14] and if a packet turns out to be invalid the packet is discarded, Applicants respectfully asserts the Gridley reference does not teach performing unscheduled cut through routing of a communication path probe, wherein the probe is discarded if said unscheduled cut through routing is not performed directly. The present Office Action acknowledges Howe in view of Gridley does not teach determining timing constraints

on intermediate network devices and dropping information based upon timing constraints.

Applicants respectfully re-assert the Shimonishi reference does not overcome these and other shortcomings of the Howe reference. The present Office Action alleges the Shimonishi reference teaches a processor directs the system to drop the incoming information. To the extent the Shimonishi reference may mention discarding a received packet associated with minimizing the vacancy of the <u>transmission medium</u> [Col. 1 line 61 – Col. 2 line 15], Applicants respectfully assert that the Shimonishi reference does not teach dropping the incoming information with time sensitive characteristics if the switching circuit can not output the information within specified timing constraints <u>according to the time sensitive characteristics.</u> Applicants respectfully assert the present claimed invention focuses on the time sensitive characteristics of the information rather than the minimization of vacancy on the transmission medium. In addition applicants respectfully assert that Shimonishi reference does not teach unscheduled pre-emptive cut through routing in which current communication of information is dropped and unscheduled information is cut through.

With respect to Claim 51 the present Office Action alleges Howe teaches the path probe update includes information utilized to establish a communication path from a source to destination. To the extent the Howe reference may mention a "pure layer one" embodiment [Col 25, lines 1 - 20], Applicants respectfully assert the Howe reference does not teach path <u>probe update</u> includes information utilized to establish a communication path from a source to destination.

With respect to Claim 52, the present Office Action alleges Howe teaches cut through routing [Col. 25 lines 12 –13 regarding request] and a communication path probe update [Col. 25 lines 13 –16 regarding accepting of the request] and upstream forwarding of the communication path probe update [Fig 9 wherein paths for control messages are bi-directional]. To the extent the Howe reference may mention requesting a scheduled time across the layer on network, Applicants respectfully assert the Howe reference does not teach a processor for directing said switching circuit to perform unscheduled cut through routing of a communication path probe and a communication path probe update. Applicants respectfully assert that a request for a scheduled time as mentioned in Howe does not teach a path probe. To the extent the Howe reference may mention accepting a request for scheduled time, Applicants respectfully assert the Howe reference does not teach a communication path probe update.

With respect to Claim 53, the present Office Action alleges Howe teaches determining if an intermediate network device has communicated information along a first path that is included in a second path. To the extent the Howe reference may mention upstream/downstream paths, Applicants respectfully assert the Howe reference does not teach determining if an intermediate network device has communicated information along a first communication path that is included in a second communication path.

With respect to Claim 54 the present Office Action alleges the Howe reference teaches determining if the switching circuit is busy performing other switching operations within specified timing constraints. To the extent the Howe reference may mention a request and event schedule [Fig. 3], Applicants respectfully assert the Howe

reference does not teach a processor directs said time sensitive quality of service management system to <u>drop</u> said incoming information with time sensitive characteristics if said switching circuit is busy performing other switching operations.
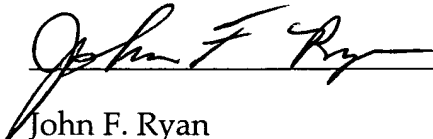
Conclusion

In light of the above-listed remarks, Applicants respectfully request allowance of the remaining Claims. The examiner is urged to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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